

ABSTRACT OF THE DISCLOSURE

*Surf B1*

To realize an optical path cross-connect technique having a high expanding characteristic with respect to an increase in a total number of wavelengths while maintaining a better transfer characteristic, an optical path cross-connect device is provided with a wavelength separating means every inter-office transmission line. Also, an intra-office signal input means is provided so as to demultiplex a wavelength-multiplexed optical signal entered from the inter-office transmission line to a first optical path group, and repeat a wavelength-non-multiplexed optical signal to the first optical path group. Then, this optical path cross-connect device is provided with "m" pieces of routing means for inputting thereinto an optical signal via this first optical path group, and for converting this optical input signal into a predetermined wavelength to thereby output the wavelength-converted optical signal to a second optical path group. The "m (symbol "m" being an integer and also being larger than 1)" pieces of routing means are subdivided in a unit of at least "n (symbol "n" being an integer and also being larger than 1)" wavelengths. Furthermore, there are provided a wavelength combining means for selectively wavelength-multiplexing the optical